



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0960; Project Identifier 2019-CE-021-AD; Amendment 39-21921; AD 2022-03-04]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Viking Air Limited (Type Certificate Previously Held by Bombardier, Inc. and de Havilland, Inc.) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 80-13-10, AD 80-13-12 R1, and AD 2008-03-01, which applied to certain de Havilland (type certificate now held by Viking Air Limited) Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes. AD 80-13-10 required repetitively inspecting the main landing gear (MLG) legs for cracks and corrosion. AD 80-13-12 R1 required repetitively inspecting each engine nacelle lower longeron for cracks and buckling. AD 2008-03-01 required incorporating inspections, modifications, and life limits of certain structural components into the aircraft maintenance program. Since the FAA issued those ADs, new and more restrictive airworthiness limitations have been issued for certain structural components. This AD requires incorporating into maintenance records new or revised life limits, modification limits, and inspection or overhaul intervals. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Viking Air Limited Technical Support, 1959 De Havilland Way, Sidney, British Columbia, Canada,

V8L 5V5; phone: (North America) (800) 663-8444; fax: (250) 656-0673; email: [technical.support@vikingair.com](mailto:technical.support@vikingair.com); website: <https://www.vikingair.com/support/service-bulletins>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0960.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0960; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Aziz Ahmed, Aviation Safety Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7329; fax: (516) 794-5531; email: [aziz.ahmed@faa.gov](mailto:aziz.ahmed@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 80-13-10, Amendment 39-3812 (45 FR 43155, June 26, 1980) (AD 80-13-10); AD 80-13-12 R1, Amendment 39-4135 (46 FR 31251, June 15, 1981) (AD 80-13-12 R1); and AD 2008-03-01, Amendment 39 15350 (73 FR 5729, January 31, 2008) (AD 2008-03-01). AD 80-13-10 applied to de Havilland (type certificate now held by Viking Air Limited) Model “DHC-6 type” airplanes with certain MLG legs and required repetitively inspecting the weld juncture at the Y-joint of the MLG legs for cracks and corrosion. AD 80-13-12 R1 applied to certain serial-numbered de Havilland (now Viking Air Limited) Model “DHC-6 type” airplanes with intermediate or high floatation tires, skis, or floats and required repetitively inspecting each engine nacelle

lower longeron for cracks and buckling. AD 2008-03-01 applied to all Viking Air Limited Model DHC-6-1, DHC-6-100, DHC-6-200, and DHC-6-300 airplanes and required incorporating the inspections, modifications, and life limits (retirement) of certain structural components, as contained in Revision 5 of the DHC-6 Product Support Manual (PSM) 1-6-11, into the aircraft maintenance program. The NPRM published in the *Federal Register* on November 8, 2021 (86 FR 61719).

The NPRM was prompted by Canadian AD CF-2019-02, dated January 9, 2019 (referred to after this as “the MCAI”), issued by Transport Canada, which is the aviation authority for Canada. The MCAI applies to all Viking Air Limited (formerly de Havilland) Model DHC-6 series 1, DHC-6 series 100, DHC-6 series 110, DHC-6 series 200, DHC-6 series 210, DHC-6 series 300, DHC-6 series 310, DHC-6 series 320, and DHC-6 series 400 airplanes. The MCAI states:

The airworthiness limitations for DHC-6 aeroplanes are defined and published in the Viking Air Ltd. (Viking) Airframe Airworthiness Limitations Manual, Product Support Manual (PSM) 1-6-11, approved by Transport Canada. The instructions contained in PSM 1-6-11 have been identified as mandatory actions for continued airworthiness. Failure to comply with those instructions could result in an unsafe condition.

Viking Air Ltd. published Revision 9 of PSM 1-6-11 earlier in 2018. Revision 9 of PSM 1-6-11, dated 30 April 2018, includes some new and/or more restrictive limitations than those contained in Revision 5. For the reason described above, this [Transport Canada] AD requires implementation of the actions specified in PSM 1-6-11 Revision 9.

The compliance requirements for several of the tasks in PSM 1-6-11 were previously a range of flight hours and flight cycles. With Revision 9 of PSM 1-6-11, the range-based requirements have been changed to specific flight hours and flight cycle limits. This [Transport Canada] AD provides a phase-in allowance for those limitations so that operators will have the opportunity to schedule the modifications and inspections required by the limitations. The phase-in allowances are intended to mitigate the impact of changing from compliance ranges to compliance limits for aeroplanes that are approaching or have exceeded the limits on the effective date of the [Transport Canada] AD.

Revision 9 of PSM 1-6-11 also includes some airworthiness limitations that were previously contained in service bulletins (SB) or other PSMs. Some of those limitations were mandated by [Transport Canada] ADs, specifically AD CF-80-06, CF-81-07R4 and CF-95-12. Because the affected limitations will now be controlled in PSM 1-6-11, the above mentioned [Transport Canada] ADs are superseded by this [Transport Canada] AD.

The following are new tasks in PSM 1-6-11 Revision 9:

1. Task 27-007 Replacement of flight control pulleys at Fuselage Station (FS) 270.
2. Tasks 32-001 and 32-002 Overhaul of main landing gear leg. There is an associated requirement to ensure that each affected part has been assigned a unique serial number.
3. Task 53-006 Inspection of the skin flange of machined frame at FS 239.
4. Tasks 54-003 to 54-010 Inspection of nacelle longerons.
5. Tasks 57-039 to 57-041 Inspection for wing upper skin disbond.

Task 27-004 Replacement of flight control cables after spillage of corrosive materials in PSM 1-6-11 was limited to landplane configurations in previous revisions of PSM 1-6-11 but is now applicable to all configurations.

The intent of the word “airframe” in PSM 1-6-11 Revision 9 is to include fuselage, nacelles, struts, interiors, cowlings, fairings, airfoils, landing gear and their controls. The airframe life limitation in PSM 1-6-11 Revision 9 is not intended to apply to components such as those in the fuel, electrical and hydraulic systems that are occasionally transferred from one aeroplane to another and may be salvaged from an aeroplane that is retired from service for use on an in-service aeroplane. PSM 1-6-13 defines current airworthiness limitations for DHC-6 avionics that are not addressed in this [Transport Canada] AD.

Model DHC-6-400 airplanes were type certificated after Transport Canada AD CF-2000-14 was issued and are subject to the same unsafe condition. You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0960.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA’s bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing

this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

### **Related Service Information under 1 CFR Part 51**

The FAA reviewed Viking Air Limited DHC-6 Twin Otter PSM 1-6-11, Airframe Airworthiness Limitations Manual, Revision 9, dated April 30, 2018. The service information contains airworthiness limitations for certain structural components. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

### **ADs Mandating Airworthiness Limitations**

The FAA has previously mandated airworthiness limitations by issuing ADs that require revising the airworthiness limitation section (ALS) of the existing maintenance manual or instructions for continued airworthiness to incorporate new or revised inspections and life limits. This AD, however, requires incorporating new or revised inspections and life limits into the maintenance records required by 14 CFR 91.417(a)(2) or 135.439(a)(2) for your airplane. The FAA does not intend this as a substantive change. Requiring incorporation of the new ALS requirements into the maintenance records, rather than requiring individual repetitive inspections and replacements, allows operators to record AD compliance once after updating the maintenance records, rather than recording compliance after every inspection and part replacement.

### **Differences Between this AD and the MCAI**

The MCAI applies to Viking Air Limited Model DHC-6 series 110, DHC-6 series 210, DHC-6 series 310, and DHC-6 series 320, and this AD does not because these models do not have an FAA type certificate. Transport Canada Models DHC-6 series 1, DHC-6 series 100, DHC-6 series 200, DHC-6 series 300, and DHC-6 series 400 airplanes correspond to FAA Model DHC-6-1, DHC-6-100, DHC-6-200, DHC-6-300, and DHC-6-400 airplanes, respectively.

### **Costs of Compliance**

The FAA estimates that this AD affects 33 airplanes of U.S. registry.

The FAA also estimates that it would take about 1 work-hour per airplane to incorporate life limits, modification limits, and inspection or overhaul intervals into maintenance records. The average labor rate is \$85 per work-hour.

Based on these figures, the FAA estimates the cost of this AD on U.S. operators to be \$2,805 or \$85 per airplane.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by

a. Removing Airworthiness Directive 80-13-10, Amendment 39-3812 (45 FR 43155, June 26, 1980); Airworthiness Directive 80-13-12 R1, Amendment 39-4135 (46 FR 31251, June 15, 1981); and Airworthiness Directive 2008-03-01, Amendment 39-15350 (73 FR 5729, January 31, 2008); and

b. Adding the following new airworthiness directive:

**2022-03-04 Viking Air Limited (Type Certificate Previously Held by Bombardier, Inc. and de Havilland, Inc.):** Amendment 39-21921; Docket No. FAA-2021-0960; Project Identifier 2019-CE-021-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces the ADs specified in paragraphs (b)(1) through (3) of this AD.

(1) AD 80-13-10, Amendment 39-3812 (45 FR 43155, June 26, 1980).

(2) AD 80-13-12 R1, Amendment 39-4135 (46 FR 31251, June 15, 1981).

(3) AD 2008-03-01 Amendment 39-15350 (73 FR 5729, January 31, 2008).

#### **(c) Applicability**

This AD applies to Viking Air Limited (type certificate previously held by Bombardier, Inc. and de Havilland, Inc.) Model DHC-6-1, DHC-6-100, DHC-6-200, DHC-6-300, and DHC-6-400 airplanes, all serial numbers, certificated in any category.

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code 0500, Time Limits.

**(e) Unsafe Condition**

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI identifies the unsafe condition as failure to comply with new and more restrictive airworthiness limitations, including tasks where range-based requirements have been changed to specific hours time-in-service (TIS) and flight cycle limits. The FAA is issuing this AD to prevent loss of structural integrity of certain parts. The unsafe condition, if not addressed, could result in loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Maintenance and Life Limits**

(1) Within 30 days after the effective date of this AD, incorporate into the maintenance records required by 14 CFR 91.417(a)(2) or 135.439(a)(2) for your airplane the life limits, modification limits, and inspection or overhaul intervals in Viking Air Limited DHC-6 Twin Otter PSM 1-6-11, Airframe Airworthiness Limitations Manual, Revision 9, dated April 30, 2018 (Viking Air Limited PSM 1-6-11, Revision 9).

(2) Before further flight after revising the maintenance records as required by paragraph (g)(1) of this AD, except as allowed under paragraph (h) of this AD, remove from service each part that has reached or exceeded its life limit and modify each part that has reached or exceeded its modification limit.

(3) Before further flight after revising the maintenance records as required by paragraph (g)(1) of this AD, except as allowed under paragraph (h) of this AD, inspect or overhaul each part that has reached or exceeded its inspection or overhaul interval.

**(h) Phase-in Period**

The following phase-in periods are allowed to comply with the initial tasks in Viking Air Limited PSM 1-6-11, Revision 9.

(1) Task 27-007: For any pulley that has been in service for 48 or more months on the effective date of this AD, replace the pulley within 12 months after the effective date of this AD.

(2) Tasks 32-001 and 32-002:

(i) For any main landing gear (MLG) leg that, on the effective date of this AD, has not been marked with a new serial number as specified in Viking DHC-6 Twin Otter Technical Bulletin V6/00063: Within 6 months after the effective date of this AD, inspect and serialize the MLG leg. The absence of a serial number indicates that the initial inspection of the landing gear leg has not previously been accomplished.

(ii) For all other MLG legs, overhaul the MLG leg within 60 months after the last overhaul.

(3) Tasks 57-006, 57-007, 57-010, 57-011, 57-013, and 57-014:

(i) For any wing that on the effective date of this AD has accumulated more than 16,000 hours total TIS or 32,000 total flight cycles but less than 17,000 hours total TIS or less than 34,000 total flight cycles, accomplish the task within 1,000 hours TIS or 2,000 flight cycles, whichever occurs first after the effective date of this AD.

(ii) For any wing that on the effective date of this AD has accumulated 17,000 or more hours total TIS or 34,000 or more total flight cycles, accomplish the task before accumulating 18,000 hours total TIS or 36,000 total flight cycles, or within 60 months after the effective date of this AD, whichever occurs first.

(4) Tasks 57-018, 57-019, 57-022, 57-023, 57-026, 57-027, 57-030, and 57-031:

(i) For any wing that on the effective date of this AD has accumulated more than 11,000 hours total TIS or 22,000 total flight cycles but less than 12,000 hours total TIS or less than 24,000 total flight cycles, accomplish the task within 1,000 hours TIS or 2,000 flight cycles, whichever occurs first after the effective date of this AD.

(ii) For any wing that on the effective date of this AD has accumulated 12,000 or more hours total TIS or 24,000 or more total flight cycles, accomplish the task before accumulating 13,000 hours total TIS or 26,000 total flight cycles or within 60 months after the effective date of this AD, whichever occurs first.

(5) Tasks 57-039 to 57-041 inclusive: For any wing that on the effective date of this AD has more than 20 years since the date of manufacture and has not previously been inspected in accordance with Viking Service Bulletin V6/0018, inspect the wing upper surface within 120 days after the effective date of this AD.

**(i) No Alternative Actions or Intervals**

After the maintenance records have been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

(1) For more information about this AD, contact Aziz Ahmed, Aviation Safety Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7329; fax: (516) 794-5531; email: aziz.ahmed@faa.gov.

(2) Refer to Transport Canada AD CF-2019-02, dated January 9, 2019, for more information. You may examine the Transport Canada AD in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0960.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Viking Air Limited DHC-6 Twin Otter PSM 1-6-11, Airframe Airworthiness Limitations Manual, Revision 9, dated April 30, 2018.

(ii) [Reserved]

(3) For service information identified in this AD, contact Viking Air Limited Technical Support, 1959 De Havilland Way, Sidney, British Columbia, Canada, V8L 5V5; phone: (North America) (800) 663-8444; fax: (250) 656-0673; email: [technical.support@vikingair.com](mailto:technical.support@vikingair.com); website: <https://www.vikingair.com/support/service-bulletins>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 20, 2022.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

[FR Doc. 2022-02715 Filed: 2/9/2022 8:45 am; Publication Date: 2/10/2022]